AMENDMENTS TO THE CLAIMS

Kindly enter the following amendment to the claims:

1-6. (canceled)

7. (currently amended) An eddy current sensor for measuring characteristics of a nearby, moving, electrically conductive object with an intervening barrier of material between the sensors and the object, the sensor comprising:

a uniaxial permanent magnet for generating a stationary magnetic field, the magnet being mounted proximate and external to the barrier and sized and shaped so that the stationary magnetic field penetrates through the barrier and can be intersected by the moving conductive object; and

~~a winding core comprising a magnetically permeable material generally coaxial with the magnet; and~~

a coil wound around the magnet ~~winding core~~ so that a signal voltage can be produced on the coil in response to a variable magnetic field caused by eddy currents in the conductive object as the conductive object passes through the stationary magnetic field;

wherein the magnet includes a first dimension along a longitudinal central major axis generally parallel to the proximate surface of the barrier, a second dimension along a second minor axis, and third dimension along a third minor axis, the first dimension being the greatest, and wherein the magnet is magnetized along one of the second minor axis and the third minor axis, whereby the sensor is monodirectional.

8. (currently amended) The eddy current sensor as recited in claim 7, wherein ~~the magnet is also the winding core, and~~ the magnet is generally rectangular in cross-section~~, has a greatest dimension of length, has a longitudinal central major axis that is generally parallel to the~~

~~proximate surface of the barrier, and is magnetized along one of its two minor axes, whereby the sensor is monodirectional~~.

9. (cancelled)

10. (cancelled)

11. (cancelled)

12. (cancelled)

13. (currently amended) An eddy current sensor for measuring characteristics of moving turbine blades of a jet engine having a casing, through which the sensor measures the blade characteristics, the sensor comprising:

a uniaxial permanent magnet for generating a stationary magnetic field, the magnet being mounted proximate and external to the casing and sized so that the stationary magnetic field penetrates through the casing and can be intersected by a portion of the blade, wherein the magnet includes a generally rectangular cross-section, a first dimension along a longitudinal central major axis generally parallel to the proximate surface of the casing, a second dimension along a second minor axis, and third dimension along a third minor axis, the first dimension being the greatest ~~is generally rectangular in cross-section, has a greatest dimension of length, has a longitudinal central major axis that is generally parallel to the proximate surface of the casing~~, and the magnet is magnetized substantially along one of the second minor axis and the third minor axis ~~its two minor axes~~; and

a coil wound around the magnet so that a signal voltage can be produced on the coil in response to a variable magnetic field caused by eddy currents in the blade as the blade passes through the stationary magnetic field,

whereby the sensor is substantially monodirectional.

14. (original) The eddy current sensor as recited in claim 13, wherein the magnet material is selected from the group consisting of Neodymium-Iron-Boron, Samarium-Cobalt, and Aluminum-Nickel-Cobalt.

15. (currently amended) An eddy current sensor for measuring characteristics of moving turbine blades of a jet engine having a casing, ~~though~~ through which the sensor measures the blade characteristics, the sensor comprising:

a uniaxial permanent magnet for generating a stationary magnetic field, the magnet being mounted proximate and external to the casing and sized so that the stationary magnetic field penetrates through the casing and can be intersected by a portion of the blade, wherein the magnet is generally cylindrical, has a central longitudinal axis that is generally perpendicular to the proximate barrier surface, and is magnetized substantially along the axis;

a winding core comprising a magnetically permeable material generally coaxial with the magnet; and

a coil wound around the winding core so that a signal voltage can be produced on the coil in response to a variable magnetic field caused by eddy currents in the blade as the blade passes through the stationary magnetic field, whereby the sensor is generally omnidirectional;

wherein the winding core is a rod mounted to a pole of the magnet distal from the casing.

16. (original) The eddy current sensor as recited in claim 15, wherein the magnet material is selected from the group consisting of Neodymium-Iron-Boron, Samarium-Cobalt, and Aluminum-Nickel-Cobalt.

17. (currently amended) The eddy current sensor as recited in claim 16, wherein the winding core is a cylindrical rod ~~mounted to a pole of the magnet distal from the casing~~.

18. (cancelled)

19. (currently amended) The eddy current sensor as recited in claim 16, wherein the winding

core is a cylindrical rod ~~mounted to a pole of the cylindrical magnet distal from the casing,~~ and the coil is wound around the magnet and the rod.

20. (currently amended) A method of measuring characteristics of moving turbine blades of a jet engine having a casing, through which blade characteristics are sensed, comprising the steps of:

generating a stationary magnetic field by using a substantially uniaxial permanent magnet, the magnet being mounted proximate and external to the casing and sized so that the stationary magnetic field penetrates through the casing and can be intersected by a portion of the blade, the magnet includes a generally rectangular cross-section, a first dimension along a longitudinal central major axis generally parallel to the proximate surface of the casing, a second dimension along a second minor axis, and third dimension along a third minor axis, the first dimension being the greatest ~~being generally rectangular in cross-section, having a greatest dimension of length, having a longitudinal central major axis that is generally parallel to the proximate surface of the casing~~, and the magnet being magnetized substantially along one of the second minor axis and the third minor axis ~~its two minor axes~~;

producing a signal voltage on a coil wound around the magnet in response to a variable magnetic field caused by eddy currents in the blade as the blade passes through the stationary magnetic field; and

measuring the signal voltage.

21. (currently amended) A method of measuring characteristics of moving turbine blades of a jet engine having a casing, through which blade characteristics are sensed, comprising the steps of:

generating a stationary magnetic field by using a substantially uniaxial permanent magnet, the magnet being mounted proximate and external to the casing and sized so that the stationary magnetic field penetrates through the casing and can be intersected by a portion of the

blade, the magnet being generally cylindrical, having a central longitudinal axis that is generally perpendicular to the proximate barrier surface, and being magnetized substantially along the axis;

producing a signal voltage on a coil wound around a winding core in response to a variable magnetic field caused by eddy currents in the blade as the blade passes through the stationary magnetic field; and

measuring the signal voltage;

wherein the winding core is a rod mounted to a pole of the magnet distal from the casing.

22. (currently amended) The method of sensing characteristics of moving turbine blades of a jet engine as recited in claims 21, wherein the winding core is a cylindrical rod ~~mounted to a pole of the magnet distal from the casing~~.

23. (cancelled)

24. (currently amended) The method of sensing characteristics of moving turbine blades of a jet engine as recited in claims 21, wherein the winding core is a cylindrical rod ~~mounted to a pole of the cylindrical magnet distal from the casing,~~ and the coil is wound around the magnet and the rod.

25. (new) An eddy current sensor for measuring characteristics of a nearby, moving, electrically conductive object with an intervening barrier of material between the sensors and the object, the sensor comprising:

a uniaxial permanent magnet for generating a stationary magnetic field, the magnet being mounted proximate and external to the barrier and sized and shaped so that the stationary magnetic field penetrates through the barrier and can be intersected by the moving conductive object;

a winding core comprising a magnetically permeable material generally coaxial with the

magnet; and

a coil wound around the winding core so that a signal voltage can be produced on the coil in response to a variable magnetic field caused by eddy currents in the conductive object as the conductive object passes through the stationary magnetic field;

wherein the winding core is a rod mounted to a pole of the magnet distal from the barrier.

26. (new) The eddy current sensor as recited in claim 25, wherein the magnet is generally cylindrical and includes a central longitudinal axis that is generally perpendicular to the proximate barrier surface, the magnet is magnetized along the longitudinal axis, whereby the sensor is omnidirectional.

27. (new) The eddy current sensor as recited in claim 26, wherein the winding core is a cylindrical rod.

28. (new) The eddy current sensor as recited in claim 26, wherein the winding core is a cylindrical rod and the coil is wound around the magnet and the rod.